

Notice of Allowability

Application No.

10/667,070

Examiner

John A. McPherson

Applicant(s)

LINLIU ET AL.

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Response to Missing Parts Notice filed 11/24/04.
2. ☒ The allowed claim(s) is/are 1-18.
3. ☒ The drawings filed on 18 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel McClure on 3/9/05.

The application has been amended as follows:

In claim 7, line 3, the second occurrence of "the" (i.e. before the word *main*) has been deleted, and --a-- substituted therefor.

In claim 15, line 3, the second occurrence of "the" (i.e. before the word *main*) has been deleted, and --a-- substituted therefor.

Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,945,260 discloses a method for manufacturing a liquid jet recording head comprising the steps of forming an ink flow passage pattern on a substrate with a resin layer, forming a covering resin layer, forming an ink discharge port pattern with a material having resistance to oxygen plasma on the surface of the covering resin layer,

dry etching the covering resin layer by the application of an oxygen plasma, and eluting the ink flow passage pattern resin layer.

US 6,773,094 discloses a method a nozzle plate of an inkjet print head comprising the steps of providing a silicon chip with an activated device, forming a first film with a first opening corresponding to the activated device on the silicon chip, forming a second film on the first film, forming a photoresist layer having a second opening corresponding to the first opening on the second film, and etching the second film under the second opening to form a via passing through the first opening.

US 5,983,486 discloses a process for producing an ink jet head comprising the steps of providing a liquid-discharge energy generating element on a substrate, providing a solid layer with a convex shape on the surface of the substrate where the liquid-discharge energy generating element has been provided and at the part where a liquid-flow path and a discharge opening are to be provided, applying on the substrate provided with the solid layer a curable material with a thickness larger than the thickness of the solid layer, curing the curable material, evenly removing the cured material until the convex portion of the solid layer is laid bare, and dissolving away the solid layer to form the liquid-flow path and the discharge opening.

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance:

In a self-aligned fabrication process for a nozzle plate of an inkjet print head, comprising the steps of providing a substrate having at least one activated device

thereon; forming a first film on the substrate; forming a second film on the first film; forming a third film; removing a portion of the third film, and etching a portion of the second film to form a via; the prior art does not teach or suggest the method further comprising the step of defining the second film to form a convex portion corresponding to the activated device, exposing a part of the surface of the first film; wherein the third film is formed on the exposed surface of the first film, covering the convex portion; the removed portion of the third film is on the convex portion; and the etching comprises etching the convex portion and the first film under the convex portion.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John A. McPherson whose telephone number is (571) 272-1386. The examiner can normally be reached on Monday through Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John A. McPherson
Primary Examiner
Art Unit 1756

JAM
3/9/05